Grades: 4-5

SciGirls "Super Sensors"

SciGirls in Los Angeles reach for the stars! Now that they are inspired by high-tech NASA sensor technology, Rihighna and her friends design and code wildlife cameras to capture images of the animals in their neighborhood.

> ## After watching this episode, choose from the following questions and/or tasks to extend your learning

Question Box 1

- Who are the SciGirls and where do they live?
- What does each girl like about science and technology?
- What is JPL? What is JPL's mission?
- What is Janelle's job at JPL? Describe her responsibilities.
- What project do the SciGirls want to do? How do they hope Janelle can help them?
- How can Miguel at the LA County Museum of Natural History help with their project?
- What is camera trapping?
- What needs to be considered when designing a camera for recording wildlife? Think about the device, location, and animal behavior?
- Before the girls build their camera, they draw a diagram and write pseudo-code. Why do they do this and how does this help them?
- After designing and programming their camera, the girls test it. How do they test it?
- After seeing the footage from Night 1, what do the girls do to improve their results?
- SciGirls were asked to give a presentation at the museum, what do they do to prepare?
- Why do they girls feel it is important to wear the NASA shirts for their presentation?
- How do the girls feel about what they have learned?

Question Box 2

- What more do you want to learn about coding or inventing, and why?
- What in the program made you curious? Explain.
- What resources will you need to learn more about this topic?
- What type of animal activity do you think happens in your backyard or neighborhood as you sleep at night?
- Do you think the SciGirls had a good plan to complete their project? How can planning for a project benefit you?
- In what way(s) did NASA inspire the girls to build "sensor traps."

Box 3 (Tasks)

- List some of the organisms that the girls caught on their camera traps.

Continued on the next page…

- Nighttime visitors: Research animals that frequent neighborhoods at night using the following website: [17 photos of animals enjoying the nightlife | MNN](#)
- Dig Deeper: from the 17 animals listed on the website, which ones are you likely to have visited your backyard or neighborhood? Tell why?
- Take a walk, look for evidence of nighttime animals, record your observations. *(ELD) Record yourself speaking as you video record your observations.*

Box 4 (Enrichment)

- Compare and contrast the footage from Night 1 and Night 2.
- Caught on Camera: When visiting JPL the girls saw two different types of cameras that were used for different purposes. What were some of the earliest cameras like?
- Your turn...make a camera of your own:
  - [Make a Pinhole Camera](#)
- Cameras Change Over Time: Make a timeline of the evolution of cameras over time.
- Compare and contrast your camera to the camera the girls used.

Box 5 (Extend/Real-Life)

- Coding is an important job because computers can only understand machine code. It is a coder's job to enable humans and machines to "talk" to each other.
- Join the Hour of Code Campaign –
- In what ways did the girls design and code their camera traps.
- Learn to code at home@ [Learn](#)